ILLEGIBLE

the results are plotted in Fig.3. Acknowledgments are expressed to M. Ya. Azbel for his comments and criticisms and to V. G. Volotska and N. Ya. Fogel' for carrying out the measurements. There are 3 figures and 9 references: 2 Soviet-bloc and 7 non-Soviet-bloc. The four-latest English-language references read as follows: Ref.2: Silcox J., Whelan M. J. Phil.Mag., 1960, 5,1; Ref.4: Vandervoort R., Washburn J. Phil.Mag., 1960, 5, 24; Ref.8: Siemmons R.O., Balluffi R.W. Phys.Rev., 1960, 117,62; Ref.9: Howle A. Phil.Mag., 1960, 5, 251.

ASSOCIATIONS: Khar'kovskiy gosudarstvennyy universitet im. A.M. Gor'kogo (Khar'kov State University imeni A. M. Gor'kiy) and
Fiziko-tekhnicheskiy institut AN UkrSSR (Physico-technical Institute AS UkrSSR)

SUBMITTED: July 15, 1961

3058

On the influence of [illegible]

S/126/61/012/006/020/027
E073/E535

polycrystalline aluminium specimens were 0.045 x 4 x 65 mm with a resistance ratio $\rho_{20°K}/\rho_{273°K} = 5 \cdot 10^{-4}$ and the potential and current leads formed an integral part of the specimens. Defects of a specific type were produced by quenching the aluminium from near-fusion temperatures in methylated spirit which had been cooled to a temperature approaching the solidification temperature. Due to coagulation of the vacancies during annealing at room temperature, dislocation loops with a density up to 10^{10} cm^{-2} were produced. The curves of the changes in the electric resistance of aluminium in a magnetic field proved to be in good agreement for the following specimens: hardened as described above; aged at room temperature; annealed at 600°C for 90 to 120 min. This confirms that the Köhler rule is fulfilled for the given range. Typical results are presented in Figs. 1 and 2. It can be seen that in specimens saturated with vacancies, $E_y/E_x(H)$ and R(H) decrease and there is also a change in sign. The authors also investigated the changes in the electric resistance and in the ratio E_y/E_x during isochronous annealing.

Card 2/3

33458
S/126/61/012/006/020/023
E073/E535

18.8100 1144 1164

AUTHORS: Zaytsev, G.A. and Khotkevich, V.I.

TITLE: On the influence of excess vacancies and dislocation loops on the Hall field in aluminium at 20°K

PERIODICAL: Fizika metallov i metallovedeniye, v.12, no.6, 1961, 917-919

TEXT: No published data are available on the galvanomagnetic phenomena in metals with a certain type of crystal lattice defect. Therefore, the authors investigated: the influence of excess vacancies and dislocation loops on the Hall "constant" R; the ratio of the potential of the Hall field E_y to the potential in the longitudinal direction of the specimen E_x; the relative change of the electric resistance in a magnetic field $\Delta\rho/\rho(0)$. They confined their investigations to the range of weak and intermediate magnetic fields $H \leqslant H_o$, where H_o is the magnetic field for which the radius of the electron orbit is equal to the length of the free path. The measurements were made at the hydrogen temperature using fields up to 3.5 kOe, generated by reversing the polarity of a permanent magnet. The

Card 1/ 3

L 17161-63
ACCESSION NR: AP3000238

6

Phi = 0° ; 90°, and Epsilon = 30; 50%, when Phi = 90°; 0°. A relation is derived between the dislocation density detected by the etching method and the time and temperature of the aging process in specimens after deformation, in the form of a curve with a maximum. The results are explained on the basis of dislocation theories. "We take this opportunity to express our gratitude to V. N. Stepanova for her assistance in mastering the etching method, to V. N. Aleksandrov for his courtesy in providing us with pure zinc, and to the students of the Khar'kov State University V. P. Ludko and L. Yu. Chernyakova, who took part in the experiments."
Orig. art. has: 3 figures.

ASSOCIATION: Kharkivs'ky*y derzhuniversy*tet im. O. M. Hor'kogo (Khar'kov State University im. O. M. Gor'kiy)

SUBMITTED: 23 Oct 62 DATE ACQ: 18 Jun 63 ENCL: 01

SUB CODE: PH NO REF SOV: 003 OTHER: 000

Card 2/3

L 17181-63 EWT(1)/EWP(q)/EWT(m)/BDS AFFTC/ASD/ESD-3/IJP(C) JD

S/0185/63/008/005/0591/0594

ACCESSION NR: AP3000238

AUTHOR: Zaytsev, N. A.; Khotkevych, V. G.

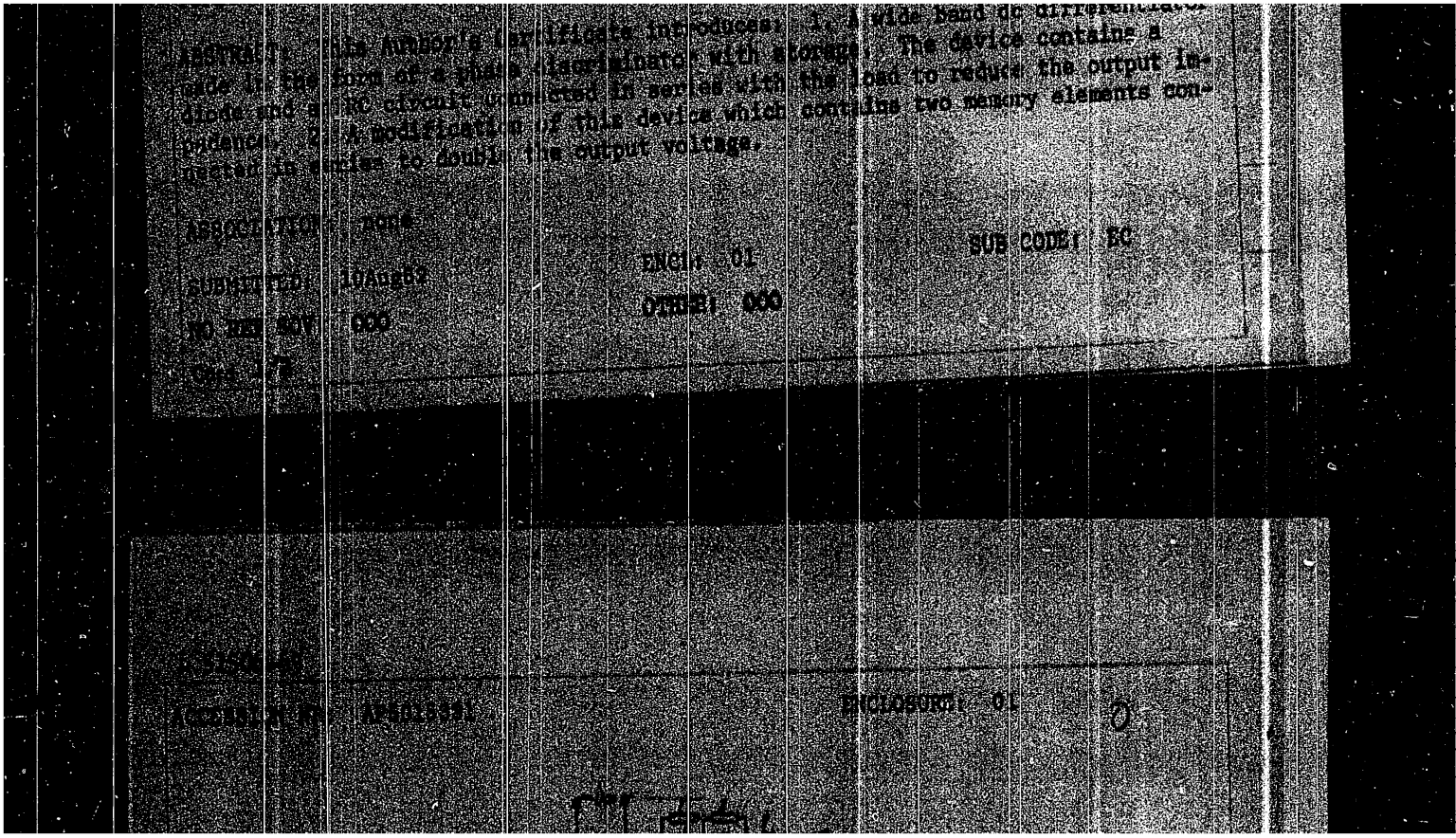
TITLE: Anisotropy of mean density of dislocations in plastically deformed single crystals of zinc

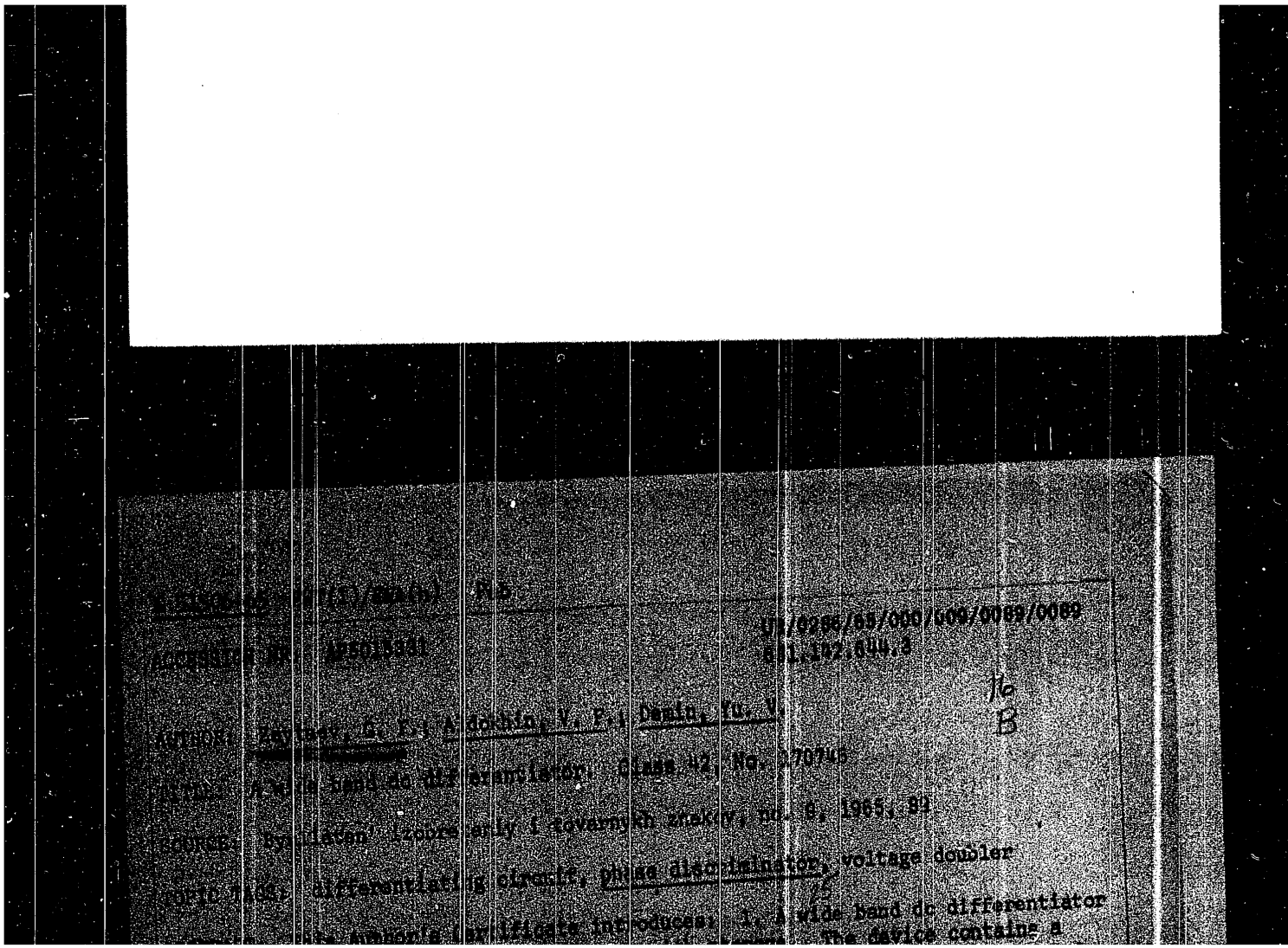
SOURCE: Ukrayins'kyy fizychnyy zhurnal, v. 8, no. 5, 1963, 591-594

TOPIC TAGS: zinc, selective etching, dislocation density, dislocation, slip, aging, plastic deformation, deformed crystal, dislocation anisotropy

ABSTRACT: The method of selective etching was used to investigated the distribution of the mean density of dislocations in bent (R = 0.5; 1 cm) and stretched (Epsilon 17, 20, 30, 50%) single crystal of zinc (99.999%) with cadmium impurity (0.1%) as a function of the angle Phi between the section plane and the bending axis or the plane containing the easy slip direction and the hexagonal axis, respectively. Upon bending, the mean density of dislocations displays an anisotropy increasing with the curvature, with a maximum at Phi = 90° and a minimum at Phi = 0°. Upon stretching, as the elongation increases, the maximum and minimum of the mean density of dislocations exchange places: Epsilon = 17; 20% when

Card 1/3





ZAYTSEV, G.A.

Static skin effect in single-crystal cadmium specimens. Zhur. eksp. i teor. fiz. 45 no.4:1266-1269 O '63. (MIRA 16:11)

1. Khar'kovskiy gosudarstvennyy universitet.

ZAYTSEV, G.A. [Zaitsev, H.A.]; KHOTKEVICH, V.I. [Khotkevych, V.H.]

Anisotropy of the mean density of dislocations in plastically deformed zinc single crystals. Ukr. fiz. zhur. 8 no.5:591-594 My '63. (MIRA 16:8)

1. Khar'kovskiy gosudarstvennyy universitet im. Gor'kogo.

ZAYTSEV, G.A.

Fundamental formulae for an n-dimensional real spinor and an algebraic model of quantized wave fields. Dokl. AN SSSR 156 no. 2:294-297 My '64. (MIRA 17:6)

1. Predstavlano akademikom N.N.Bogolyubovym.

ENCLOSURE: 02

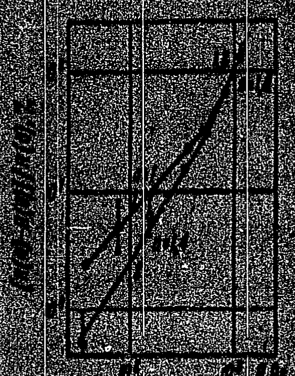


Fig. 2. Magnetoresistance of a cadmium monocrystal versus H (Oersteds) for specimens with smooth (1) and damaged (2) surfaces; n is the power of function $R(H)$

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001964100032-6

L [illegible]-65
ACCESSION NR: [illegible]

ENCLOSURE: 01

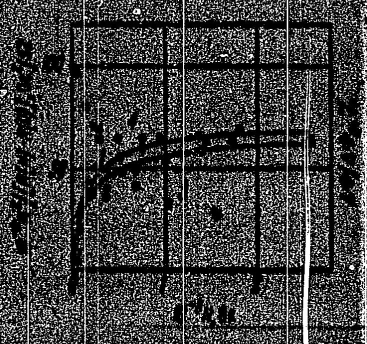


Fig. 1. Results of ballistic (curves 3 and 4) and radiometric (curves 1 and 2) measurements of cadmium [illegible]. Curves for specimens with smooth (1, 3) and damaged (2, 4) surfaces are shown. Legend of points: ● --curve 1; ○--curve 2; [illegible]--curve 3; [illegible]--curve 4

Card 3/[illegible]

served for quenched and cold worked samples (78°K), respectively; the stages coincided with atom diffusion, vacancy coagulation and dislocation annealing. Measurements of $\Delta\rho/\rho_0 = f(H^2)$ were given for the quenched and deformed samples after aging at 290°K and room temperature. The magnetic results were plotted on a Korel diagram and little of the data deviated from the universal curve. Only after 50% deformation at 78°K did the data deviate significantly; however, after aging at room temperature for 250 hrs or at 473°K for 30 min, the deviation disappeared. A correlation was made between the Hall coefficients and the Korel rule, i. e.,

$$R-R_0 = f(H\rho_k/\rho_{ot})$$

where $R = \lim_{H\to 0} K$ is the Hall constant and ρ_k/ρ_{ot} is the ratio of specific resistivity at room temperature to that at the measured temperature. The value of R_0 extrapolated to zero field. These experiments confirmed that the symmetry principle of kinetic coefficients depended on the crystal lattice defects. Orig. art. has: 6 figures, 2 formulas.

SUB CODE: 11,20/ SUBM DATE: 16Oct64/ ORIG REF: 009/ OTH REF: 011

Card 2/2

L 32967-66 EWT(1)/EWT(m)/T/EWP(t)/ETI IJP(c) JH/JD

ACC NR: AT6015896 (N) SOURCE CODE: UR/0000/65/000/000/0032/0039

AUTHOR: Zaytsev, G. A.; Khotkevich, V. I. (Doctor of physico-mathematical sciences)

ORG: Khar'kovsky Research Institute im. A. M. Gor'kiy (Khar'kovskiy gosudarstvennyy universitet); Physico-Technical Institute, AN UkrSSR (Fiziko-tekhnicheskiy institut AN UkrSSR)

TITLE: Magnetic resistance and the Hall effect in aluminum with crystal lattice defects at temperatures of 20 and 4°K

SOURCE: AN UkrSSR. Issledovaniye energeticheskogo spektra elektronov v metallakh (Study of the energy spectrum of electrons in metals). Kiev, Izd-vo Naukova dumka, 1965, 32-39

TOPIC TAGS: Hall effect, crystal lattice vacancy, metal physics, crystal lattice defect, aluminum

ABSTRACT: Hall effect measurements were made at 20 and 4°K on polycrystalline aluminum samples (99.997% pure) which were either quenched from 873°K or deformed at 78, 20 and 4°K. These treatments introduced nonequilibrium vacancies which significantly affected the magnetic resistance $\Delta\rho/\rho_0$ (where ρ_0 is the specific resistivity of aluminum in the absence of a magnetic field at 20 and 4°K). Isochronal annealing curves are shown for various sample conditions. Two and three stage annealing behavior were ob-

Card 1/2

ZAYTSEV, G.A.; KHOTKEVICH, V.I.

Effect of the anisotropic distribution of dislocations on the rotation diagram of transverse magnetic resistance in a single crystal of zinc. Fiz. met. i metallived. 20 no.4:626-628 O '65. (MIRA 18:11)

1. Khar'kovskiy gosudarstvennyy universitet imeni A.M. Gor'kogo i Fiziko-tekhnicheskiy institut AN UkrSSR.

ACCESSION NR: AP4036719

algebra. Specifically, $|\psi >$ and $< \varphi|$ would be substantial in a factor-algebra by an abstraction to the right and left of the ideal by the homologous ideal $(0:\psi_0)$ and $(0:\psi_0')$. This provided the possibility for a purely algebraic reorganization of existing quantized-field theories and contributed to the theories of abstract associative algebra and rings. Orig. art. has: 9 equations and 5 theorems.

ASSOCIATION: none

SUBMITTED: 15Aug63 DATE ACQ: 03Jun64 ENCL: 00

SUB CODE: MA NO REF SOV: 010 OTHER: 002

Card 2/2

S/0020/64/156/002/0294/0297

ACCESSION NR: AP4036719

AUTHOR: Zaytsev, G. A.

TITLE: Basic formula for multidimensional real spinors and an algebraic model of a quantized wave field

SOURCE: AN SSSR. Doklady*, v. 156, no. 2, 1964, 294-297

TOPIC TAGS: multidimensional spinor, real spinor, algebraic model, wave field, quantized wave field, creation spinor, discrete impulse, associative algebra, factor algebra, abstract associative ring

ABSTRACT: The purpose of this paper was to determine an algebraic model where the indices σ and μ only accept a finite number of integral values lying, for example, within the limits of 1 to n_b and n_c. Such a model would provide a generalized theory of real spinors whereupon a basic formula for one real spinor may be assigned as an equation for the determination of a vacuum. Through a series of mathematical arguments, the model was constructed. It was stressed, in the conclusions, that the author could have refrained from using the presented algebra $(b \times c \times p)$ to construct a theory of unified real spinors included within the terms of abstract associative

Card 1/2

51-4-3-5/30

A General Theory of Molecules with Internal Rotation. II.

Professor M.A. Yel'yashevich for his interest. There are 17 references, of which 11 are American and 6 Soviet.

ASSOCIATION: Ivanovo Chemico-Technological Institute. (Ivanovskiy khimiko-tekhnologicheskiy institut.)

SUBMITTED: May 13, 1957.

1. Molecular rotation—Theory

Card 3/3

A General Theory of Molecules with Internal Rotation. II.

meaning. It is shown that in contrast to the case of quasi-rigid molecules, for molecules with tops the smallness of vibrational coordinates is insufficient to allow the kinetic energy of the interaction of rotations and vibrations T_{in} to be included in the zero approximation. Physical meaning of additional conditions for smallness of T_{in}, which are closely related with the dependence of vibrational frequencies on the angles of rotation of the tops, is discussed. A general classical expression for the rotational-vibrational energy for molecules with tops is obtained. The nature of dependence of the vibrational frequencies on the angles of rotation of the tops is established for the case of torsional vibrations and for the case of free or damped rotation. A general expression for the rotational part of the energy of a molecule with an arbitrary number of asymmetrical tops is found and the properties of such an expression in the zero approximation are discussed. The author thanks Professor I.N. Godnev for valuable discussions and

Card 2/3

31-4-3-5/30

AUTHOR: Zaytsev, G.A.

TITLE: A General Theory of Molecules with Internal Rotation. II. (K obshchey teorii molekul s vnutrennim vrashcheniyem. II.)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol.IV, Nr.3, pp.309-317. (USSR)

ABSTRACT: In the preceding paper (Ref.1) the author found a general expression for the kinetic energy of molecules consisting of a skeleton with an arbitrary number of tops attached to it. The kinetic energy of relative motion T was given in the form of a function of independent rotational and vibrational coordinates and their rates of change. All the remaining coefficients were expressed in terms of masses, constants which determine equilibrium configurations of the skeleton and tops and the relative positions of tops, and constants b^{λ}_{kjs} which are related to independent vibrational coordinates. In the present paper the author discusses mathematical conditions for determination of b^{λ}_{kjs} and considers their physical

Card 1/3

The Shift of the Energy Level of a Particle With Spin 20 [illegible]54
1/2 in a Coulomb's Field.

At given j and m (corresponding to the two possible signs of the root); the quantum number $\lambda = (j+(1/2))^2 \mp \sqrt{(j+(1/2))^2 - \alpha^2(1+\delta)^2}$ can assume only two values. If the quantity α^2 is neglected, then we obtain instead of the quantum number λ the quantum number l. Then the present paper discusses the equation for the radial function. In order to obtain discrete levels of the energy $\mathcal{E}$, a radial quantum number k (k=0,1,2,...) must be introduced. The expressions for the energy levels are given in their explicit form in the paper under review. The deviation of the magnetic moment of the particle form the corresponding magneton leads to a displacement of the energy levels as compared to the energy levels of the Dirac equation.
(No reproductions).

ASSOCIATION Not Given.
PRESENTED BY BOGOLYUBOV N.N., Member of the Academy
SUBMITTED 28.1o.1954
AVAILABLE Library of Congress.
Card 2/2

ZAYTSEV, G.A.

20-1-25/64

AUTHOR ZAYTSEV, G.A.

TITLE The Shift of the Energy Level of a Particle With Spin 1/2 in a Coulomb's Field.
(Sdvig urovney energii chastitsy so spinom 1/2 v kulonovskom pole-
-Russian)

PERIODICAL Doklady Akademii Nauk SSSR, 1957, Vol 114, Nr 1, pp 61-63 (U.S.S.R.)

ABSTRACT The paper under review investigates the problem of a particle with spin 1/2 and of negative charge (for instance, a negative myon or an electron) being situated in a field with the potential $\varphi = Ze/r$, $A_k = 0$. In this context, the charge of the particle is denoted with $-e (e>0)$. In this investigation, the author utilizes the basic equation for the particle with spin 1/2 in the electromagnetic field, as investigated by him in his previous paper in Dokl. Akad. Nauk, Vol 113, Nr 6, (1957), and he determines the relevant energy levels. Let the particle be in a stationary state so that we have

$\hbar i(\partial/\partial t)\psi = E\psi$, $\psi = \left[\exp(-iEt/\hbar)\right]\psi_0$. The equation for the energy operator is given, and after separation of the variables we obtain for the energy levels the following equation:

$$\left\{ \frac{\partial^2}{\partial r^2} + \frac{2}{r}\frac{\partial}{\partial r} + \frac{1}{\hbar^2 c^2}\left[\left(E + \frac{Ze^2}{r}\right)^2 - m_0^2 c^4 \right] - \frac{\lambda}{r^2} \right\} f(r) = 0$$

Then the paper under review proceeds to show which of the operators commute with each other.

Card 1/2

AUTHOR Zaitsev, V.A. 20-6-17/59

TITLE On the Problem of the Relativistic Invariant Basic Equation For the Particle With the Spin 1/2
(K voprosu ob osnovnom relyativistski invariantnom uravnenii dlya chastitsy so spinom 1/2 -Russian)

PERIODICAL Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 6, pp 1248-1250(U.S.S.R.)
Received 7/1957 Reviewed 8/1957

ABSTRACT As the magnetic moment of a particle as a rule differs considerably from the corresponding magneton (this difference is small only in the case of the electron and the positron), DIRAC'S equation is not applicable to any particle with spin 1/2. The author therefore again investigates the problem of the relativistic invariant equation for the particle with spin 1/2, charge e, mass m_0 and the magnetic moment $\mu_0=(e\hbar/2m_0c)(1+\delta)$. The particle may be located in an exterior electromagnetic field and $\delta \neq 0$ applies. In the non-relativistic approximation the equation for the particle with spin 1/2 can be written down in the form:

$$\left[-i\hbar\frac{\partial}{\partial t}+\frac{1}{2m_0}\sum_{k=1}^{3}\left(-\hbar i\frac{\partial}{\partial x^k}-\frac{e}{c}A_k\right)^2+e\varphi\right]\left\{_0-\frac{e\hbar}{2m_0c}(1+\delta)\sum_{k=1}^{3}H_k\sigma_k\right\}_0=0$$

Here $\{_0$ denotes a spinor of first grade, σ_k - the PAULI matrices, A_k - the components of the vector potential. This equation is then transformed and can be made relativistically invariant by the substitution of certain operators by other operators. η is here, by

Card 1/2

SUBMITTED 28.10.1956
AVAILABLE Library of Congress
Card 2/2

Experience gained in direct measurement of the distribution of the humidity of the atmosphere by means of the spectral method.

water concentration in the atmosphere on altitude, in mm of water precipitated per 1 km of the layer. Although the obtained data require further checking, they do indicate the usefulness of the described method and apparatus for such measurements. Increased accuracy and sensitivity of the instrument for measuring low water concentrations could be achieved by using more intensive absorption bands.
There are six figures and 12 references, 4 of which are Slavic.

SUBMITTED: November 13, 1956.

AVAILABLE: Library of Congress.

Card 4/4

Experience gained in direct measurement of the distribution of the humidity of the atmosphere by means of the spectral method.

transmitted and also signals from the pressure gauge, etc. The respective switching is effected by means of a commutator which is coupled with the cam for scanning of the spectrum. The full cycle of the instrument is 2.5 secs and, therefore, the slow changes of the location of the scattering plate of the light source relative to the Sun's rays caused by random oscillations of the instrument during free flight should not affect the results of determination of the relative intensities of the adjacent parts of the spectrum. The results are plotted in graphs. Fig.1 shows the calibration curve obtained on the basis of the exponential law; Fig.2 shows the graduation curve obtained on the basis of the square root; Fig.3 shows a part of the absorption band of water vapour (1.4μ) measured on the spectrometer with altitude scanning, whereby the spectral width of the slot is shown at the bottom part of this Figure. Fig.4 shows the dependence of the absorption function A on the altitude (up to 17 km) for the band 1.4μ; Fig.5 shows the dependence of the quantity of water precipitating along the vertical on the height reached by the instrument; Fig.6 shows the dependence of

Experience gained in direct measurement of the distribution of the humidity of the atmosphere by means of the spectral method.

into five sections (1.24, 1.40, 1.50, 1.88, 2.2 μ), the wave-lengths 1.40 and 1.88μ belong to the absorption bands of water vapour; utilisation of two bands is provided for extending the range of the measured water concentrations. The wave-lengths 1.24, 1.50 and 2.2μ fall between individual bands and serve for determining the initial intensities in the bands 1.40 and 1.88μ by means of interpolation. The linear dispersion of the instrument equals 100 a/mm; the entry and exit slots are 1.5 mm wide. Illumination of the input slot is effected by means of a source with a circular emanating surface fitted with a dispersion plate of magnesium oxide. Experiments carried out at ground level showed that, in the operating range of the spectrum, the role of radiation scattered by the sky is insignificant. The measured radiation is modulated with a frequency of 850 c.p.s. using as a receiver of the radiation a cooled PbS photo resistance. After amplification, the signals are transmitted by radio to the ground. In addition to the basic signals transmitted in the operating position of the diffraction lattice (which is turned by means of a cam), calibrating signals are

G. A. ZAYTSEV

49-4-21/23

AUTHORS: B. S. Neporent, V. F. Belov, O. D. Dmitriyevskiy, G. A. Zaytsev, V. G. Kastrov, M. S. Kiseleva, L. A. Kudryavtseva and I. V. Patalakhin.

TITLE: Experience gained in direct measurement of the distribution of the humidity of the atmosphere by means of the spectral method. (Opyt pryamogo izmereniya vysotnogo raspredeleniya vlazhnosti atmosfery spektral'nym metodom).

PERIODICAL: Izvestiya Akademii Nauk, Seriya Geofizicheskaya, 1957, No.4, pp. 552-555 (USSR).

ABSTRACT: Some recent American communications (Refs.5-7) refer to investigating the spectrum of the Sun in the infrared range during flights in the upper layers of the atmosphere, in which observation of absorption bands of water vapours are mentioned and views are expressed on the possible concentrations of these vapours. In this paper the results are described of the first attempts to determine directly the content of water vapour in the atmosphere by means of specially designed spectral apparatus. The operation of the instrument was described in detail by Neporent, B.S. et alii (Ref.8); it consists of a step-wise vacuum monochromator with a diffraction lattice of 300 lines/mm of the size 50 x 70 mm which subdivides the infrared range

Card 1/4

ILLEGIBLE

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ZAYTSEV, G.A.

ZAYTSEV, G.A.

USSR/Physics - Infrared absorption anisotropy

Card 1/1 Pub. 146 - 16/44 FD-3257

Author : Zaytsev, G. A.; Neporent, B. S.

Title : Anisotropy of absorption of gypsum crystals in the infrared region

Periodical : Zhur. eksp. i teor. fiz., 29, No 6(12), Dec 1955, 857-863

Abstract : Designs of a polarizational method for and microscope adjunct to infrared spectrometry. The authors investigate the anisotropy of absorption and reflection of gypsum crystals in the region 2-11 microns. For a number of bands corresponding to the oscillations of water molecules and SO_4^{--} groups they discover pleochronism and extension to variously polarized components. They make more precise the origin of certain bands and give conclusions concerning the nature of the oscillations bonds in the lattice. Fourteen references: e.g. On Matsumura, Mem. Faculty Sci. Kyushu Univ., 1 B, 1-3, 1951 (Chem. Abstr., 43651, 1952).

Institution : --

Submitted : August 12, 1954

USSR/Physics - Dirac equations

FD-2870

Card 1/1 Pub. 146 - 7/26

Author : Zaytsev, G. A.

Title : Problem of the explanation of the Dirac equations for the electron

Periodical : Zhur. eksp. i teor. fiz., 29, August 1955, 176-180

Abstract : The author shows that the Dirac equations for the electron can be considered as a system of equations for two interacting spinors. To the gradient invariance of the equations will correspond invariance relative to spinor transformations of the second type. In consequence of this, in the Dirac theory one must consider as the principal quantities not the components of the wave function psi but rather definite tensors, knowing which one can with an accuracy up to a spinor transformation find also the corresponding real spinors. He cites his earlier works: ibidem, 28, 530, 1955; 25, 667, 1953; 28, 524, 1955; 25, 653, 1953. Fourteen references.

Institution :

Submitted : April 3, 1954

ZAYTSEV, G.A.
USSR/Physics - Spinors

FD-2869

Card 1/1 Pub. 146 - 6/26

Author : Zaytsev, G. A.

Title : Tensors characterized by two real spinors

Periodical : Zhur. eksp. i teor. fiz., 29, August 1955, 166-175

Abstract : The author finds formulas that permit one to determine simply a real spinor according to primary tensors characterizing it. By means of these formulas he establishes how two spinors corresponding to two given triads E,H,j are connected. He investigates tensors whose components degenerate into two real spinors. He introduces spinor transformations of two types which correspond to differ possible interpretations of gradient transformation. He establishes the important significance of spinor transformations; namely, he points out that, if definite groups of tensors are considered as initial, then by their help one can find two real spinors with an accuracy up to a spinor transformation of one of the types studied. By means of the spinors one can express also the components of the original tensors, which will not vary as a result of the carrying out of a suitable spinor transformation. He cites his earlier work: ibidem, 25, 667, 1953; 25, 675, 1953; 28, 524, 1955; 28, 53, 1955. Four references: e.g. MacMillan, Dynamics of Solids [translated into Russian by Foreign Literature Press, 1951].

Submitted : April 3, 1954

ZAYTSEV, G. A.

USSR/Physics - Relativistic electron equation FD-2198

Card 1/1 Pub. 146-3/25

Author : Zaytsev, G. A. (Ivanov)

Title : Relativistically invariant equations for the electron which replace the Dirac system of equations

Periodical : Zhur. eksp. i teor. fiz. 28, 530-540, May 1955

Abstract : Utilizing the properties of real spinors the author finds the extra terms producing the equations for the electron, which are employed in nonrelativistic quantum mechanics, to be relativistically invariant. The second-order differential equations thus found, which connect the components of one real spinor, are simpler than those obtained from the Dirac theory. He solves the introduced relativistically invariant equations for the hydrogen atom in the case of no external fields. It turns out that the usual formula for the fine structure is obtained just as in the Dirac theory. He shows that the second-order differential equations under consideration can be obtained from a system of relativistically invariant first-order equations containing, however, not one, but two real spinors. Fourteen references.

Institution : -

Submitted : April 3, 1954

2 AYTSEV, G. A.

USSR/Physics - Electromagnetic field FD-2197

Card 1/1 Pub. 146-2/25

Author : Zaytsev, G. A. (Ivanovo)

Title : Description of an electromagnetic field by means of matrices

Periodical : Zhur. eksp. i teor, fiz. 28, 524-529, May 1955

Abstract : The author considers the properties of matrix-tensors. He describes the equations for quantities characterizing an electromagnetic field in matrix form. He employs the designations and results in his earlier work (ibid. 25, 667, 1953). He employs his method in the following article of the same issue (ibid. 28, 530-540, 1955). He introduces a tensor of angular momentum of an electromagnetic field. Six references: e.g. G. A. Zaytsev, ibid. 25, 1953.

Institution : -

Submitted : April 3, 1954

ZAYTSEV, G. A.

USSR/Physics - Molecule oscillation

Card : 1/1 Pub. 22 - 16/48

Authors : Zaytsev, G. A.

Title : A new method of finding oscillating parts in thermodynamic functions.

Periodical : Dok. AN SSSR 97/5, 817 - 819, August 11, 1954

Abstract : A new method of finding parts of thermodynamic fuctions expressing statistical sums of oscillations, performed by molecules having n degrees of freedom, is described. The method shows that oscillating quantities can be found without solving the secular equation. Two references (1949).

Institution : Ivanovskiy Chemico-Technological Institute

Presented by : Academician V. N. Kondrat'ev, May 22, 1954

Zaytsev, G. P.

USSR/Physics - Analysis

Card 1/1 Pub. 43 - 10/62

Authors : Zaytsev, G. P., and Neporent, B. S.

Title : The absorption anisotropy of gypsum crystals in the infrared zone

Periodical : Izv. AN SSSR, Ser. fiz. 18/6, 665-666, Nov-Dec 1954

Abstract : The anisotropy of infrared absorption of gypsum crystals was investigated in a range of 2 - 10μ. The reflection spectra of polished crystal slides were studied at an aperture not exceeding 0.1 and angle of incidence of 4°. The devices employed in the investigations and the results obtained are described. Graph.

Institution: .....

Submitted : .....

ZAYTSEV, G. A.

"Rotary Vibrational Energy of Molecules with Spins." Leningrad State Pedagogic Inst imeni A. I. Gertsen, Chair of Theoretical Physics, Ivanovo, 1954. (Dissertation for the Degree of Candidate of Physical and Mathematical Sciences)

SO: Knizhnaya Letopis', No. 22, 1955, pp 93-105

ZAYTSEV, G.A.

USSR.

530.145

2411. **Real spinors in the four-dimensional Minkowski space.** G. A. ZAITSEV. *Zh. eksper. teor. Fiz.*, 25, *No.* 6(12) 667-74 (1953) In Russian.

The theory developed in the preceding abstract is generalized to the case of the 4-dimensional transformations of relativity. In analogy with the 3-dimensional case, real spinors are discussed whose components can be regarded as parameters specifying the elements of a 4-dimensional vector and an antisymmetric 4-dimensional tensor of 2nd rank, characterized by the vanishing of its two invariants. The first paragraph deals with the definition and a formal analysis of the transformation properties of certain tensor matrices, which are then applied to the study of real spinors in 4 dimensions. The notation of electromagnetism is used for the antisymmetric tensor (H, E) and the 4-dimensional vector (j). The triad of orthogonal vectors discussed in the preceding abstract is then essentially equivalent to E, H, j and the vanishing of the invariants takes the form $E^2 - H^2 = 0$, $E \cdot H = 0$. W. J. SWIATECKI

62

9

CA 2BVTSA, G.A.

Etching of metals and minerals for ultraviolet microscopy. B. M. Brumberg, G. A. Zaitsev, and T. G. Porokhova. *Doklady Akad. Nauk S.S.S.R.* 73, 1105-8(1950).—Expt. studies were made relating to ultraviolet metallography of metals and minerals with metallic luster. A Beckman spectrophotometer, fitted for measuring the coeff. of specular reflection, detd. percentage of reflectivity in the range 220-700 μμ for pieces of pure metals given a metallographic polish. In some cases, such as Bi and Al, pronounced differences in reflectivity appeared below about 400 μμ. In other cases, e.g. Sb and Sn, no large difference appeared. It was then possible to make use of an etching effect in which strong, selective absorption of ultraviolet light is caused by a thin film of a metal salt or oxide, invisible in ordinary light. From 0.2 to 0.8 μ films of various oxides and salts were prepd. by vacuum evapn. on quartz plates and their reflectivity curves were detd. *in situ*. These curves showed a sharp drop, generally in the range 290 to 400 μμ. Gases such as O_2 and H_2S were used as etchants. A method of color photography in the ultraviolet involves taking two or more pictures of a given area of the specimen, the second (and each successive) picture being taken after (a different) etching. Each picture is then projected in the Chromoscope with a different color of filter. This procedure allows distinguishing among many phases in an alloy. The structure of Silumin was shown in 2 exposures, and the 4 phases present appeared in different colors. This method can be combined with that involving the use of different wave lengths.

A. G. Guy

1951

IVAKHNENKO, Aleksey Grigor'yevich; ZAYTSEV, G., kand.tekhn.nauk,red.; POLYANSKAYA, L.O., ved.red.; MATUSEVICH,S.M., tekh. red.

[Technical cybernetics; automatic control systems with adapted characteristics] Tekhnicheskaia kibernetika; sistemy avtomaticheskogo upravleniia s prisposobleniem kharakteristik. 2. izd. Kiev, Gostekhizdat USSR, 1962. 421 p. (MIRA 15:7)
(Cybernetics) (Automatic control)

IVAKHNENKO, Aleksey Grigor'yevich; ZAYTSEV, G., kand.tekhn.nauk, red.; KUROCHKIN, F., vedushchiy red.; MATUSEVICH, S., tekhn.red.

[Technical cybernetics; systems of automatic control with adaptation of characteristics] Tekhnicheskaia kibernetika; sistemy avtomaticheskogo upravleniia s prisposobleniem kharakteristik. Kiev, Gos.izd-vo tekhn.lit-ry USSR, 1959. 421 p. (MIRA 13:1)

(Automatic control)

ZAYTSEV, G.

ZAITEV, G.

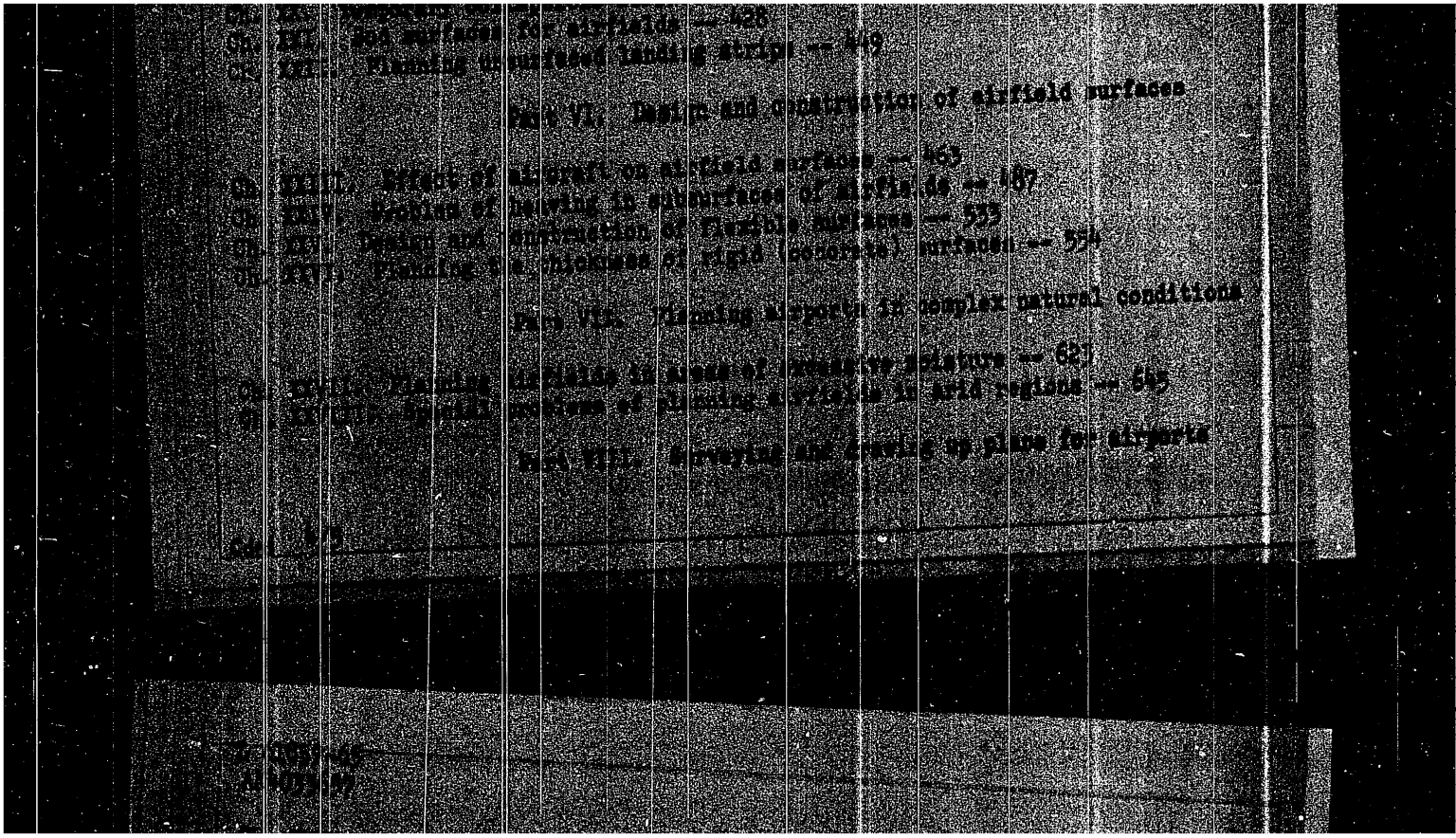
"Tissue therapy in surgical clinics. Tr. from the Russian", p. 88 (Analele Romano-Sovietice, Seria Medicina Generala, Series a III-a, v. 6, no. 1, Jan./Feb. 1953. Bucuresti)

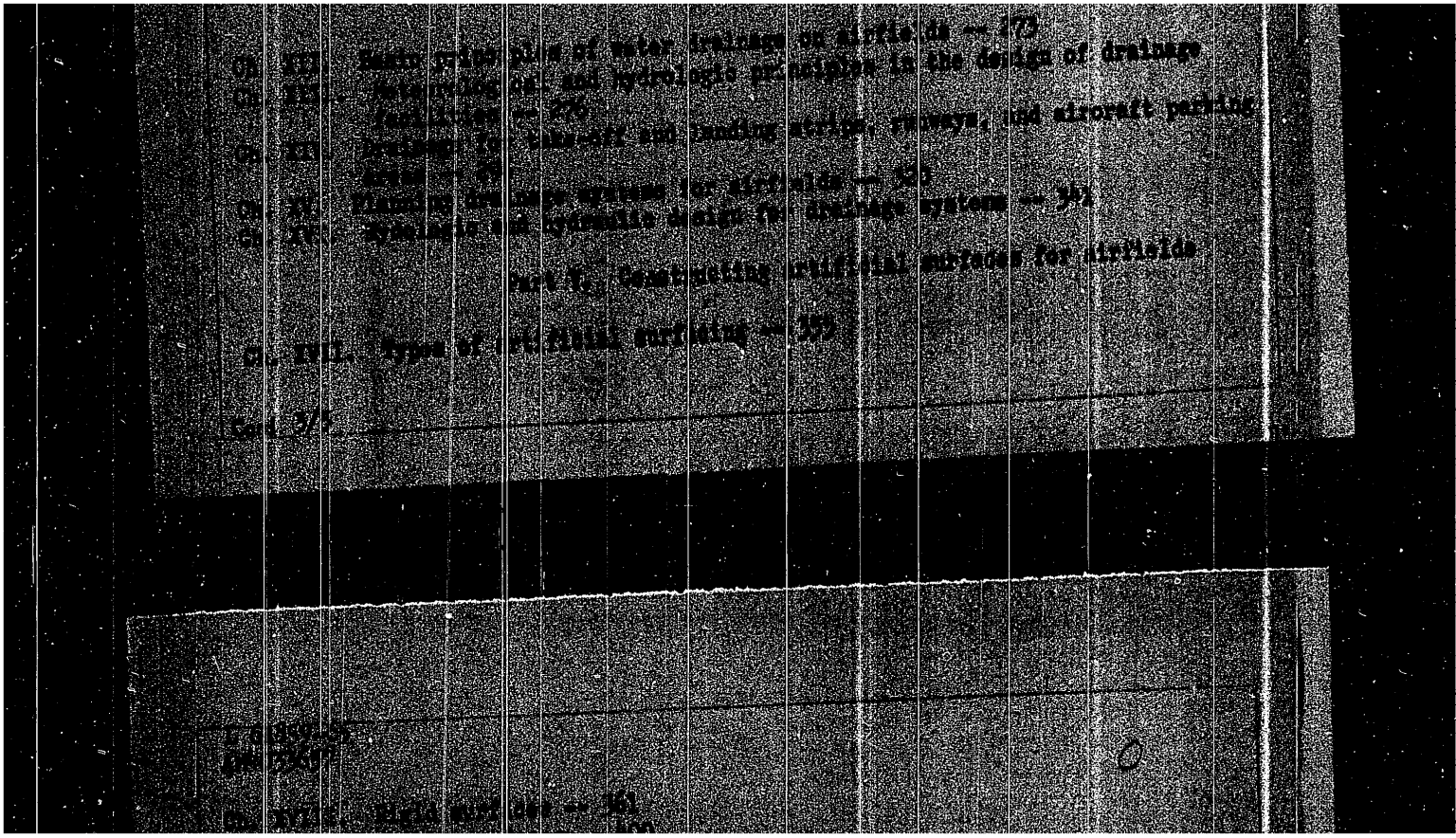
SO: Monthly List of East European Accessions, Library of Congress, September 1953, Uncl.

ZAYTSEV, G.

Let's make a great effort to fulfill the building plan on schedule. Sel'.stroi. 10 no.2:6 F '55. (MLRA 8:4)

1. Nachal'nik otdela po stroitel'stvu v kolkhozakh Krasnogorodskogo rayona Velikolukskoy oblasti.
(Farm building)





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Ch. III. Technology of airport transport services -- 46
Ch. IV. Structures in the flying zone -- 56
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Ch. VI. Principles of airport planning -- 116

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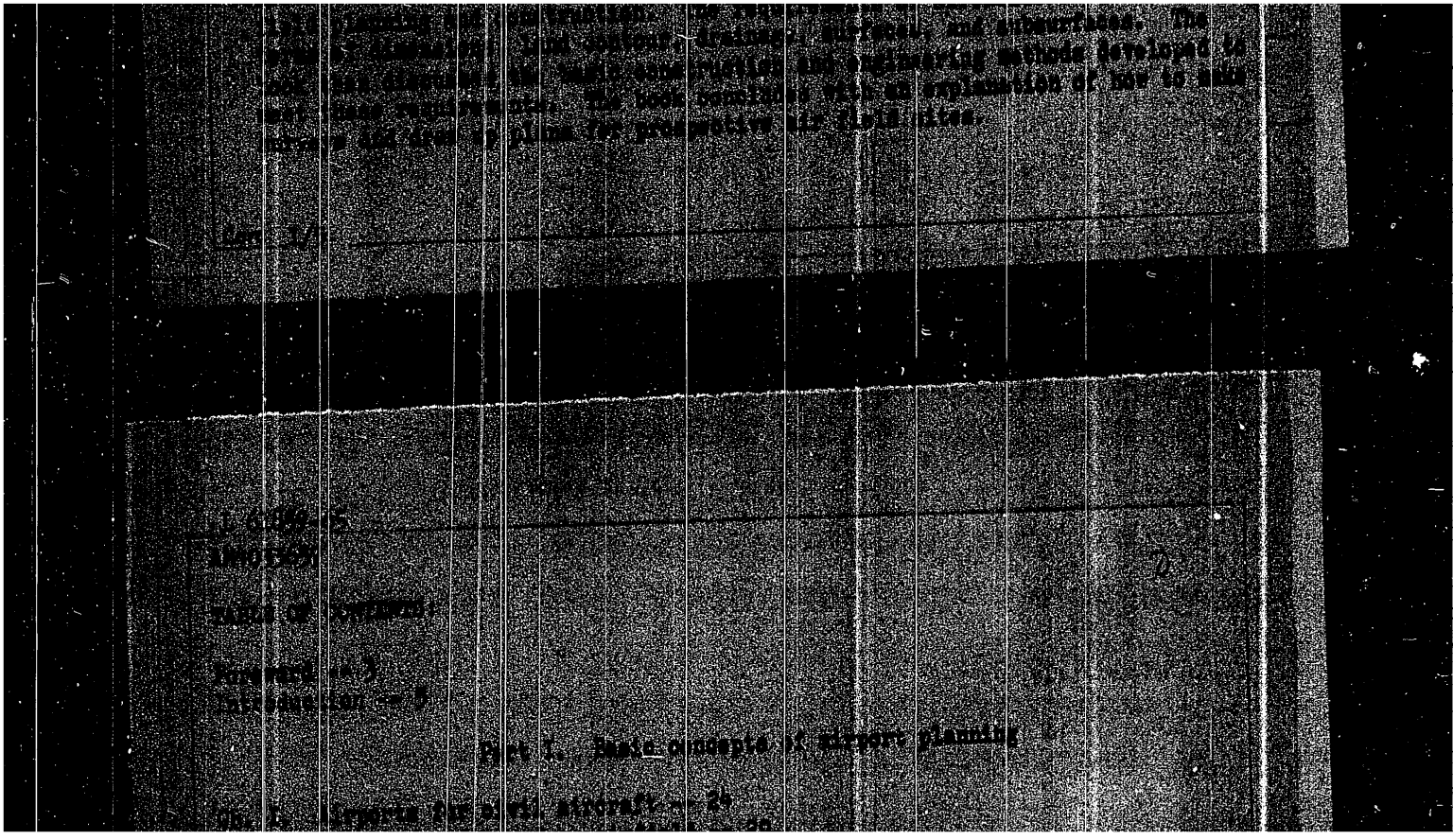
Ch. VII. Calculating the dimensions of the parts of the airfield and the approach zone -- 133
Ch. VIII. Technical specifications for airport planning -- 193

Card 2/5

Part III. Planning the contours of airfields

... for airfields -- 200



[Locating and designing airfields] Izyskaniia i proektirovanie aerodromov. Pod red. V.F.Babkova. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo transporta i shosseinykh dorog RSFSR, 1959. 566 p. (MIRA 13:3)

1. Khar'kovskiy avtomobil'no-dorozhnyy institut (for Romanenko, Barats, Baskevich, Bel'skiy, Kaluzhskiy).
(Airports--Planning)

MOGILEVSKIY, Dmitriy Aleksandrovich, dots.; BABKOV, Valeriy Fedorovich, prof., doktor tekhn. nauk; SMIRNOV, Andrey Sergeyevich, dots., kand. tekhn.nauk; ABRAMOV, Leonid Tikhonovich, kand. tekhn. nauk; ZAYTSEV, Filipp Yakovlevich, kand. tekhn. nauk; ZAMAKHAYEV, Mitrofan Semenovich, prof., kand. tekhn. nauk; NIKITIN, Sergey Mikhaylovich, inzh.; DEBERDEYEV, B.S., red.; GALAKTIONOVA, Ye.N., tekhn. red.

[Survey and design of airports] Izyskaniia i proektirovanie aerodromov. [By] A.Mogilevskii i dr. Izd.2. Moskva, Avtotransizdat, 1963. 703 p. (MIRA 16:11)
(Airports--Design and construction)

PART V. DESIGNS OF AIRFIELD PAVEMENTS

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68. Structural layers of airfield pavements 290
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used in the USSR and other countries and developmental trends in airfield design and planning. Section 3 Chapter 2, Section 18 Chapter 5, Chapters 21 to 24 (excluding Section 93), and Chapters 26 to 30 were written by V.F. Babkov. Chapters 11 to 15 and Section 93, Chapter 22 were written by Candidate of Technical Sciences L.T. Abramov. The Introduction, Chapters 1 to 5 (excluding Sections 3, 18, and 21), Chapters 8 to 10, and Chapter 20 were written by Docent D.A. Mogilevskiy. Chapters 18, 19, and 25 to 32 were written by Candidate of Technical Sciences A.S. Smirnov; Chapters 16 and 17, by Candidate of Technical Sciences F. Ya. Zaytsev; Chapter 6, by F. Ya. Zaytsev and A.S. Smirnov; Chapter 31, by Candidate of Technical Sciences M.S. Zamakhayev; and Section 21, Chapter 5, and Chapter 7, by Engineer S.M. Nikitin. Reviewers are Professor A.K. Birulya; staff members of an airfield-planning organization under the direction of Candidate of Technical Sciences P.A. Dudkin and including V.N. Avdeyev, V.A. Kartashev, A.G. Pal'chev, A.N. Popov, and I.G. Ptitsin; and a team of instructors from the Khar'kovskiy avtomobil'no-dorozhnyy institut (Khar'kov Automobile and Highway Institute) under the direction of Professor I.A. Romanenko and including L.A. Barats, N.I. Baskevich, A. Ye. Bel'skiy, and Ya. A. Kaluzhskiy. There are no references.

ZAYTSEV, F. YA.

PHASE I BOOK EXPLOITATION SOV/4727

Mogilevskiy, Dmitriy Aleksandrovich, Valeriy Fedorovich Babkov, Andrey Sergeyevich Smirnov, Leonid Tikhonovich Abramov, Filipp Yakovlevich Zaytsev, Mitrofan Semenovich Zamakhayev, and Sergey Mikhaylovich Nikitin

Izyskaniya i proyektirovaniye aerodromov (Site Selection and Planning of Airfields) Moscow, Avtotransizdat, 1959. 566 p. Errata slip inserted. 1,300 copies printed.

Ed.: (Title page): V.F. Babkov, Doctor of Technical Sciences, Professor; Ed. (Inside book): V.G. Chvanov; Tech. Ed.: N.V. Mal'kova.

PURPOSE: This textbook is intended for students of schools of higher education specializing in airfield-construction engineering and students of tekhnikums and other schools studying airfield construction. It may also be used by staff members of organizations for airfield planning, construction, and operation.

COVERAGE: The book deals with the principal requirements for airfield design and construction. The topics discussed include landing-strip dimensions, relief and drainage patterns, and the design and construction of surfaces and pavements. Airfield site selection is also included. The book purportedly reflects methods

Card 1/15

Zaytsev, F.V.

RAPOPORT, P.L.; ZAYTSEV, F.V.

In memory of I. M. Rabinovich. Khirurgiia, Moskva no. 10:88-89 Oct 1952. (CLML 23:3)

1. Obituary of Head of Department of General Surgery at Saratov Medical Institute.

ZAYTSEV, F. V.

23646.

KLINIKA I LECHENIYE GAZOVOY INFEKTSII. -- V OGL: ZAYTSEV V. F. TRUDY SARAT. GOS. MED. IN-TA, T. VIII, 1949, s. 189-92.

SO: LETOPIS' No. 31, 1949

ZAYTSEV, F.V.

Isolated lymphogranulomatosis of the stomach. Khirurgiia 34 no.12: 94 D '58. (MIRA 12:1)

1. Iz Saratovskogo gorodskogo onkologicheskogo dispansera.
(STOMACH--TUMORS)

1. ZAYTSEV, F. S.

2. USSR (600)

4. Building Trades

7. Socialist competition among Moscow builders, Ser. Khoz. Mosk., no. 1, 1953

9. Monthly List of Russian Accessions, Library of Congress, May 1953, Unclassified.

ZAYTSEV, F. I., LIVSHITZ, S. V.

"High Quality Checked Tools for Stakhanovites" Stanki i Instrument, 10, No. 3, 1939

Report U-1505, 4 Oct. 1951

ZAYTSEV, F. I. 600

USSR (600)

"An Attachment for Fitting Splines"
"A Grapnel for Removing Levers"
Stanki i Instrument 10, No 4, 1939

[redacted] Report U-1505, 4 Oct 1951

ZAYTSEV, F.F.

Coupling of the cap of a thermocouple case with a protective pipe. Sbor.rats.predl.vnedr.v proizv. no.5:56-57 '60. (MIRA 14:8)

1. Zavod "Elektrostal'". (Thermocouples)

ZAYTSEV, F.

What can be learned from the experience of Moscow construction workers. Sov. profsoiuzy 5 no.4:22-24 Ap '57. (MLRA 10:6)

1. Predsedatel' Moskovskogo oblastnogo komiteta profsoyuza rabochikh stroitel'stva.
(Moscow--Construction industry) (Trade unions)

ZAYTSEV, F.

Housing for the Muscovites. Sov.profsoiuzy 7 no.2:21-22 Ja '59.
(MIRA 12:3)

1. Predsedatel' Moskovskogo gorodskogo komitota profsoyuza rabochikh stroitel'stva i promyshlennosti stroitel'nykh materialov.
(Moscow--Construction workers)

LUKOVNIKOV, A., inzh.; ZAYTSEV, F.

Improved gauge. Stroitel' no.7:19 Jl '59. (MIRA 12:10)
(Tiles)

ZAYTSEV, F.I.; STANOVSKIY, M.M.

Structure of the Central Office of Technical Information should conform with the main trends of its work. NTI no.1:8-10 '65.
(MIRA 18:6)

L 3822-66
ACCESSION NR: AP5024828

ENCLOSURE: 01

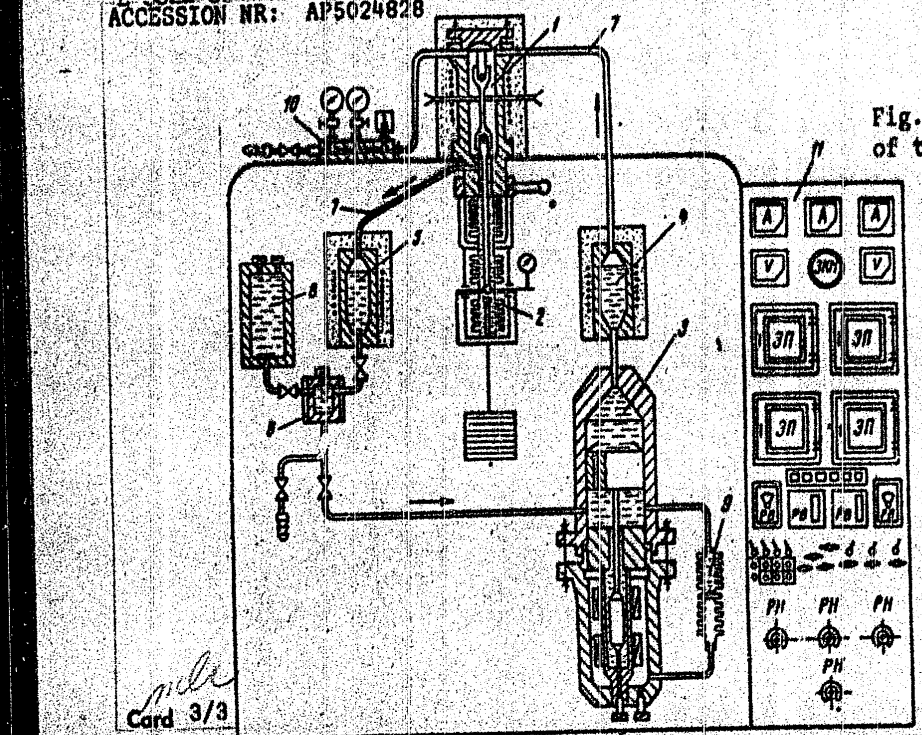


Fig. 1. Schematic diagram of the installation

Card 3/3

L 3822-66
ACCESSION NR: AP5024828

3

instrument is described in detail. The installation is designed for a preprogrammed automatic testing cycle. Orig. art. has: 3 figures.

ASSOCIATION: Tsentral'nyy nauchno-issledovatel'skiy institut tekhnologii i mashinostroyeniya (Central Scientific Research Institute of Technology and Machine Building)

SUBMITTED: 00 ENCL: 01 SUB CODE: IE

NO REF SOV: 003 OTHER: 000

Card 2/3

L 3822-66 EWT(d)/EWT(m)/EPF(c)/EWP(v)/EWP(t)/EWP(k)/EWP(h)/EWP(b)/EWP(l) 48 45
ACCESSION NR: AP5024828 JD/WB UR/0032/65/031/010/1265/1268
620.198-1.0.5

AUTHOR: Ryabchenkov, A. V.; Pongil'skiy, N. F.; Zaytsev, E. G.; Gerasimov, V. I. B

TITLE: A device for corrosion tests under stress at high temperature and pressure

SOURCE: Zavodskaya laboratoriya, v. 31, no. 10, 1965, 1265-1268

TOPIC TAGS: stress corrosion, high temperature effect, pressure effect

ABSTRACT: The article is a description of a device patented by the authors for studying corrosion in metals under stress at high temperatures and pressures (Author's Certificate No. 154078, published in *Byulleten' izobretenii* No. 8 1963). Schematic diagrams are given of the instrument as a whole and of its principal parts. A general schematic of the device is shown in fig. 1 of the Enclosure. The unit consists of working chamber *1* with loading device *2*, supercharger *3*, intermediate storage vessels *4* and *5* and sampler *6*. These elements form a closed circulation system with connecting tubes *7*. The installation also contains a supply tank *8*, a pressure-equalizing device *9*, protection *10* and control *11* instrumentation located on a separate control board and in the cabinet of the device. The operation of the

Card 1/3

ENCLOSURE: 01

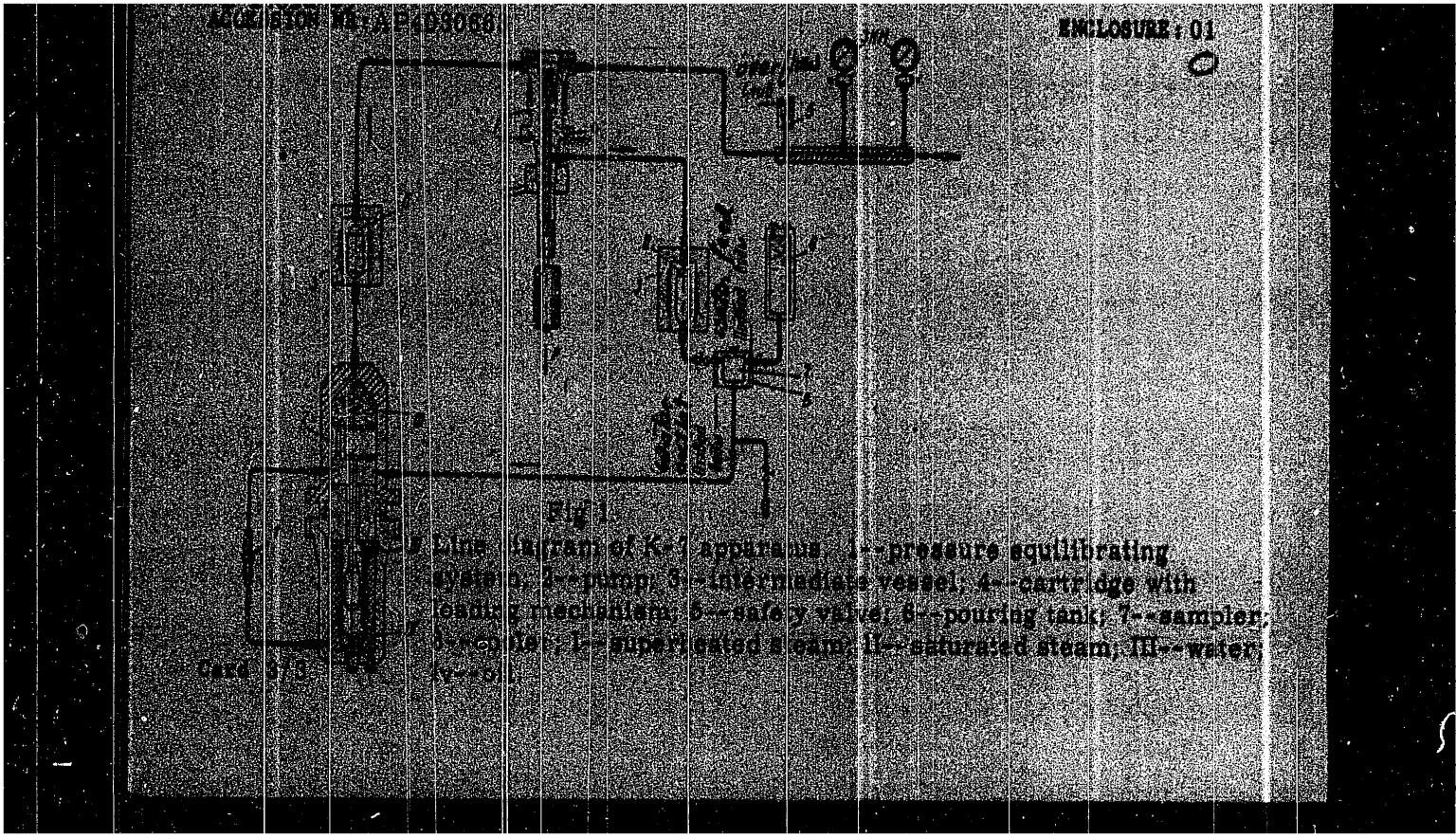
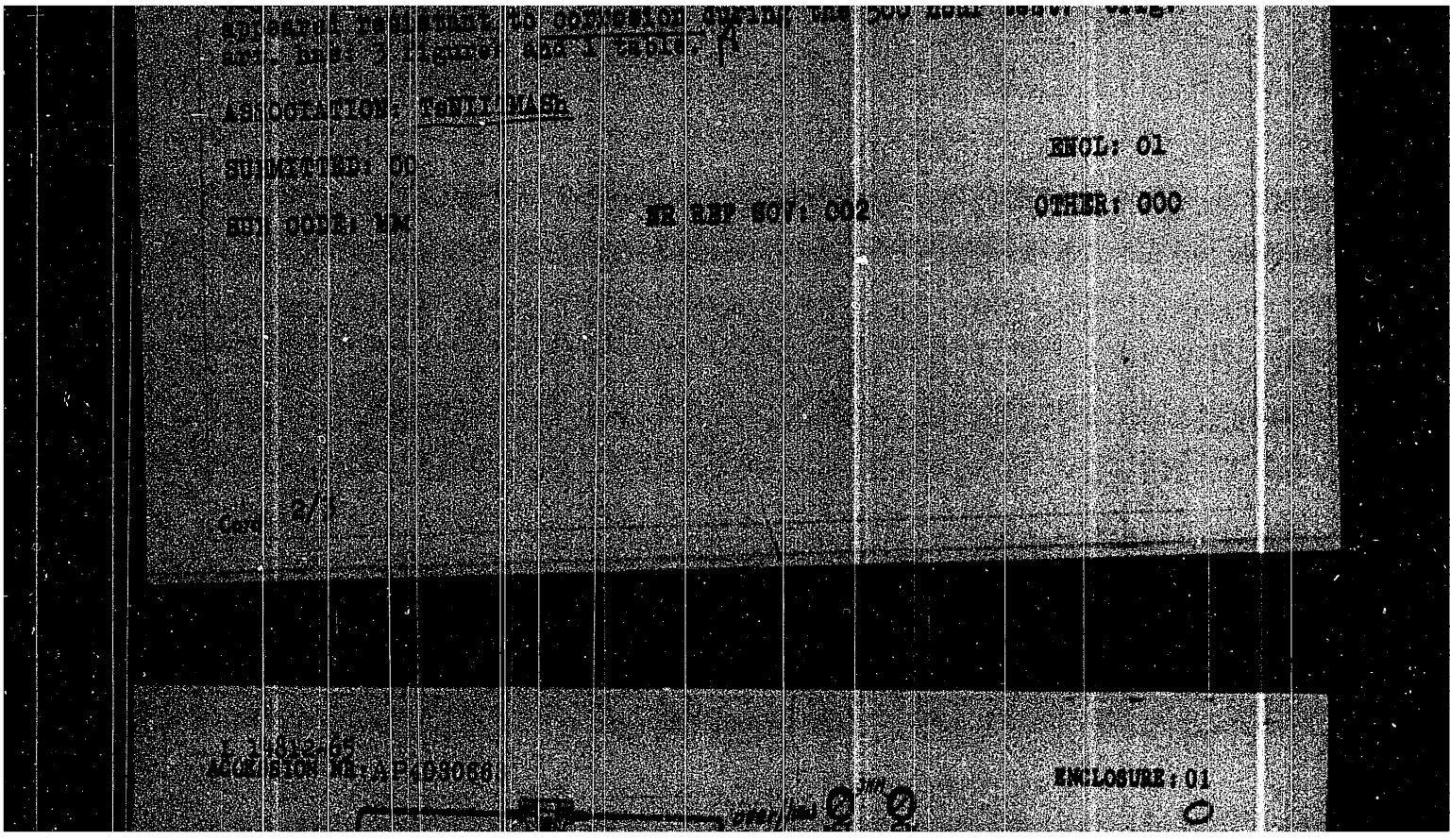
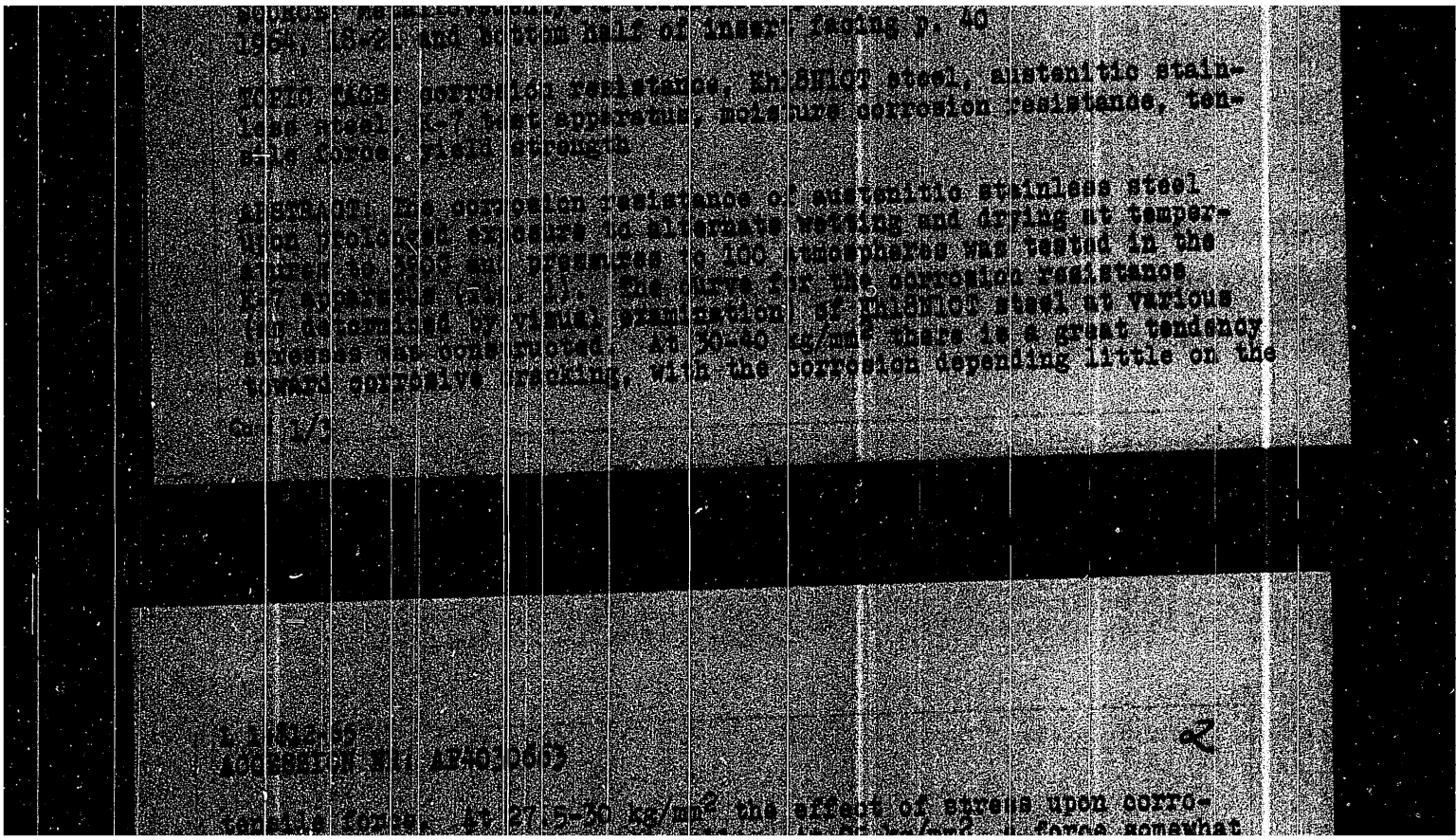
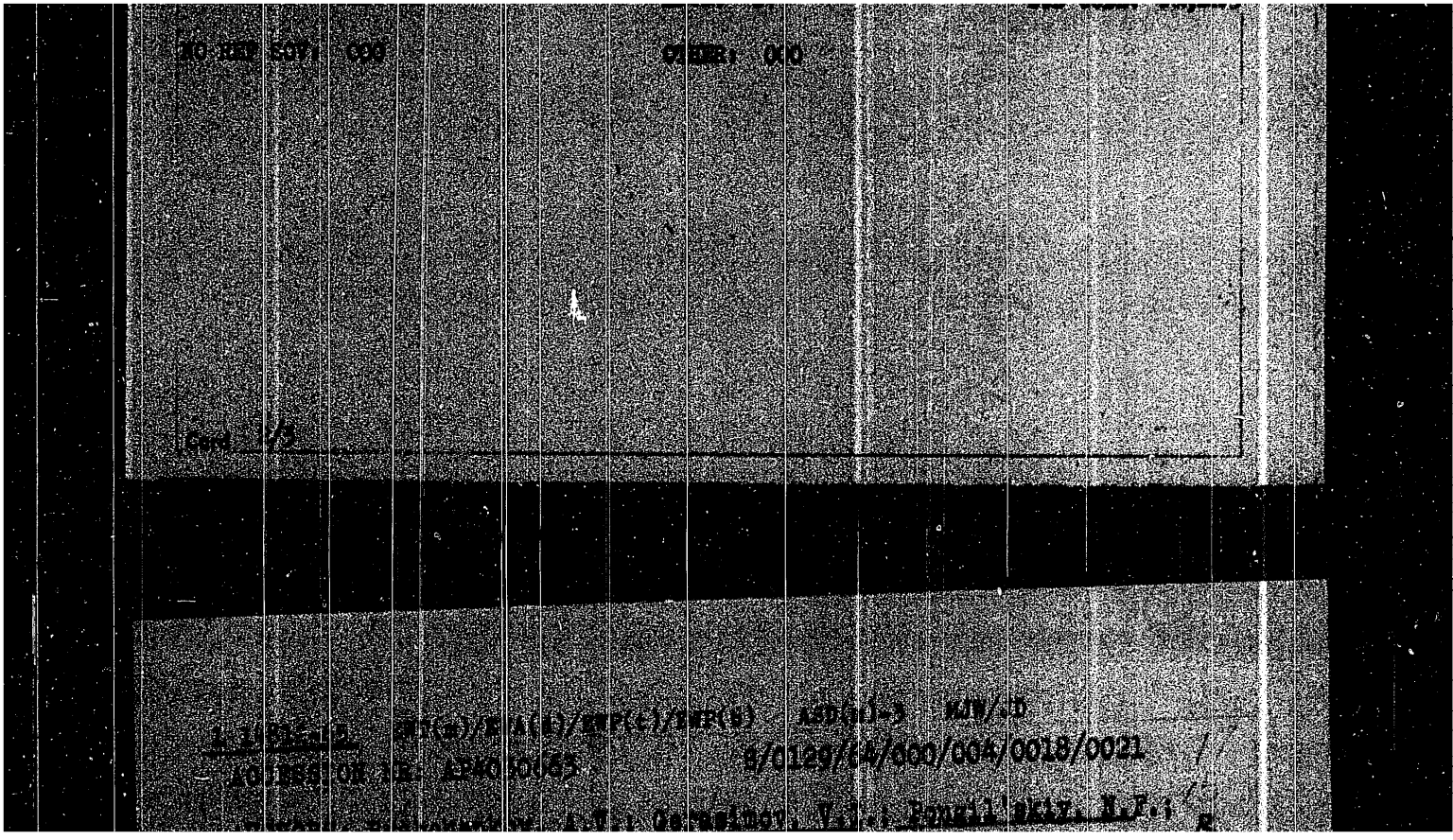


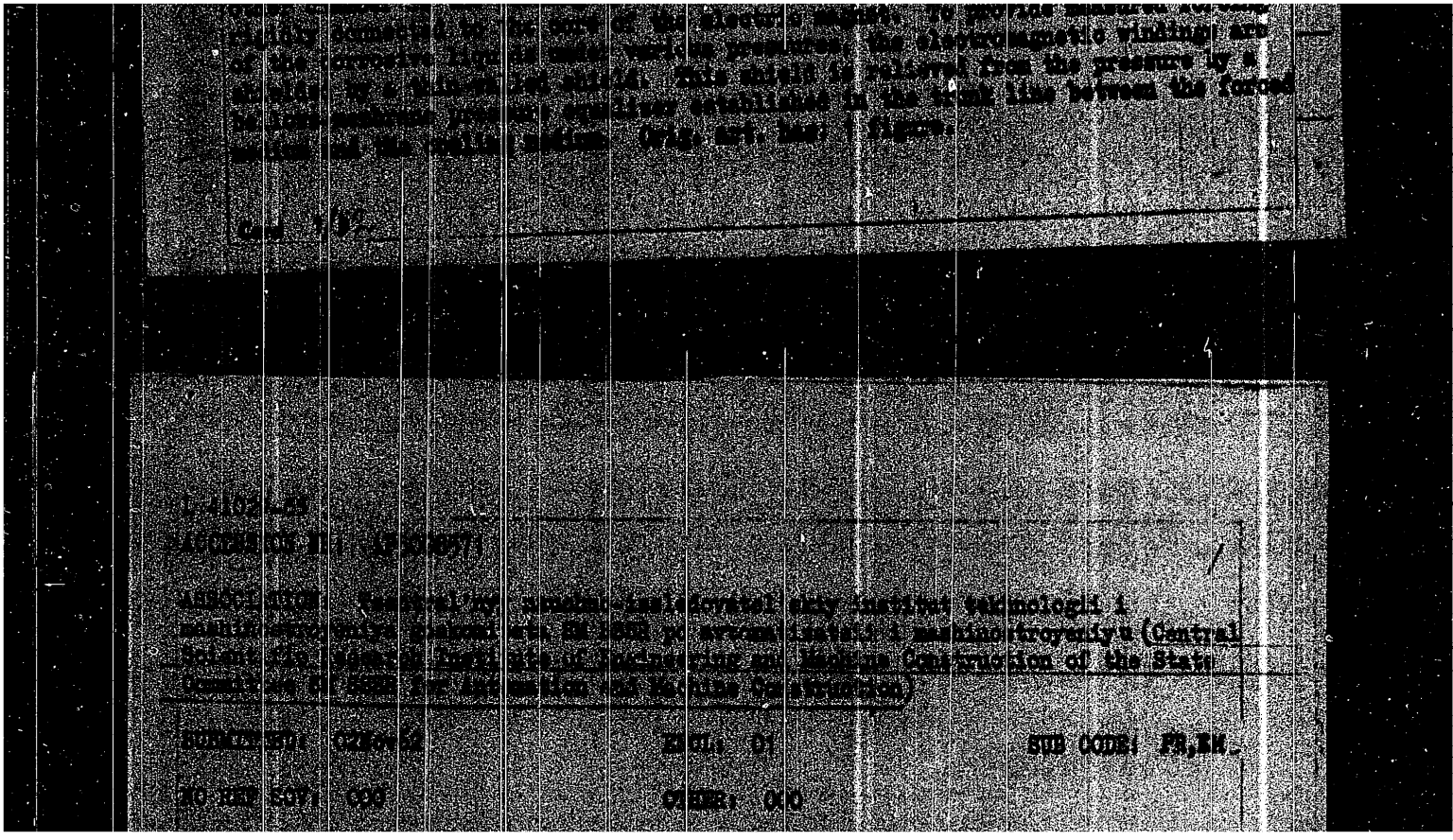
Fig 1.
Diagram of K-1 apparatus. 1--pressure equilibrating system; 2--piston; 3--intermediate vessel; 4--cartridge with sealing mechanism; 5--safety valve; 6--pouring tank; 7--sampler; I--superheated steam; II--saturated steam; III--water; IV--oil.

Card 3/3









[illegible] magnetic circuit, frequency stability

ABSTRACT: A new current pulse oscillator design principle used for advance pulse oscillators in digital magnetic computers and as current oscillators in magnetic yokes and possessing substantial advantages over other types is described. These oscillators, in addition to reliability and effective use of power, provide a high degree of pulse amplitude stability under sharply changing load conditions and a short pulse decay time when the load is inductive. Experimental data on two different types of magnetic current pulse oscillators are given. Orig. art. has: 19 formulas and 5 figures.

SUB CODE: 09,20/SUBM DATE: None

Card 1/1 UDC: 621.373

[illegible] EPR[illegible]-2/[illegible]/EPA[illegible]-2/EWT(1)/EPM[illegible]/T-2 [illegible] S/0286/65/000/006/0111/0111

ACCESSION NR: AP[illegible]

AUTHOR: [illegible], A. V.; [illegible], M. F.; [illegible], E. [illegible]; Borisov, D. P.; [illegible], A. A.

TITLE: An electromagnetic piston pump. Class 59, No. 169401

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 6, 1965, 111

TOPIC TAGS: piston pump, electromagnetic pump, pump pressure equaliser

$\cos(\psi + \varphi) < 0$, respectively. The stability of the obtained solutions is analyzed by means of Lyapunov's theorem and Hurwitz's criterion. It was found that only the first solution ($u_1^{(1)}$) is stable; the second solution is unstable for any parameters of the generator. The region of existence of the asymmetric regime is determined. The necessary condition for the absence of repeated saturation is $i_1(0) \geqslant N/2$. This condition is also the sufficient condition in the interval $0.5 < b < 1.5$. The assumptions underlying the analysis give a good approximation to actual processes in most practical cases; hence the proposed method can be considered as general, being applicable to other operating conditions of magnetic pulse-generators and related devices. The obtained formulas are not only qualitatively correct, but they are also in quantitative agreement with experiment; hence they can be used in the design of generators. An illustrative example is given. There are 5 figures and 4 references: 2 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: W. S. Melville. PIEE Part III, v. 98, no. 53, 1951; K. Busch, A. Hasley, C. Neitzert. BSTJ. no. 34, 1955.

Card 5/5

Study of stationary ...

$$\int_0^{T_k} u_{1(k)}\,dt = 0 \qquad (8)$$

In the case of an asymmetric regime of stationary oscillations, characterized by the fact that the choke L is saturated only once during the period of oscillations, one obtains the solution of system (7) in the form of 3 expressions (for A and θ), and equation

$$\sin(\psi + \varphi) = \frac{1}{V}\left(-A\sin\theta + \frac{d}{2b}M\right) = -\frac{\gamma' M}{V}\left(S - \frac{d}{2\pi b}\right) \qquad (17)$$

for ψ; hence the phase ψ is not uniquely determined; the system has 2 solutions: $u_1^{(1)}(t)$ and $U_1^{(2)}(t)$, corresponding to $\cos(\psi + \varphi) > 0$ and

Card 4/ 5

Study of stationary ...

between the (k-1)-st and k-th saturation of the choke is denoted by $u_{1(k)}$ and $i_{1(k)}$. Thereupon, a system of recursion (difference-) equations

$$\left.\begin{aligned} i_{1(k+1)}(0) &= i_{1(k)}(T_k) \\ u_{1(k+1)}(0) &= q_1 u_{1(k)}(T_k) \\ \Psi_{k+1} &= \Psi_k + T_k \end{aligned}\right\} \qquad (7)$$

is obtained, where T_k is the time lapse between 2 consecutive saturations of the choke. Eqs. (7) are nonlinear. T_k is determined by two transcendental equations, the first of which being

Study of stationary ...

where the dimensionless variables

$$t = \omega\tau, \quad u_1 = \frac{u_{c1}}{U_m}, \quad i_1 = \frac{du_1}{dt} = \frac{i_{c1}}{U_m \omega C_1}$$

are used, as well as the dimensionless coefficients $b = \omega_1/\omega$ -- the charging-circuit parameter, d -- the damping, M -- the magnetization coefficient, and ψ -- the phase of the supply voltage at the moment of saturation of the choke. The general solution of Eq. (3) is

$$U_1 = V \sin(t + \psi + \varphi) + Ae^{-\frac{bd}{2}} \sin(b_1 t + \theta) - \frac{d}{2b} M \qquad (4)$$

where $b_1 = b\sqrt{1 - d^2/4}$. The solution of Eq. (3), in the interval

37126
S/108/62/017/005/002/007
D407/D301

24,2300

AUTHORS: Vatin, I. M., Zaytsev, E. F. and Meyerovich, L. A.

TITLE: Study of stationary oscillations in a magnetic pulse generator

PERIODICAL: Radiotekhnika, v. 17. no. 5, 16-25

TEXT: The equation for the oscillations is derived and its solution found for the case of asymmetric stationary oscillations with period 2 ; their stability is investigated. The asymmetric regime of stationary oscillations was chosen, as being of greater practical interest. A block diagram of the magnetic pulse-generator is shown. The processes between 2 saturations of the choke L are described by the differential equation

$$\frac{1}{b^2}\cdot\frac{d^2u_1}{dt^2}+\frac{d}{b}\cdot\frac{du_1}{dt}+u_1=\sin(t+\varphi)-\frac{d}{2b}M \qquad (3)$$

Card 1/5

VATIN, I.M.; ZAYTSEV, E.F.; MEYEROVICH, L.A.

Study of stationary oscillations in a magnetic pulse generator.
Radiotekhnika 17 no.5:16-25 My '62. (MIRA 15:5)
(Oscillators, Electric)
(Pulse techniques (Electronics))

ZAITSEV, V.B.

ZAITSEV, B. B.

Finance and credit plans of commercial cooperative organizations. Moskva, Gos. izd-vo ekon. lit-ry, 1932. 117 p. (Sovetskaia torgovlia)

Cyr.4 HD187

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CA

1 4

Present methods for the removal of salts from water. D. V. Zaitsev. *Vodosnabzhenie i Sanit. Tekh.* 14, No. 11-12, 23-7(1939); *Chem. Zentr.* 1941, I, 418.—Three new methods used in Russia for the removal of salts from water are described. One is a distn. method, a 2nd is a freezing method, and a 3rd is an ion-exchange method.

M. G. Moore

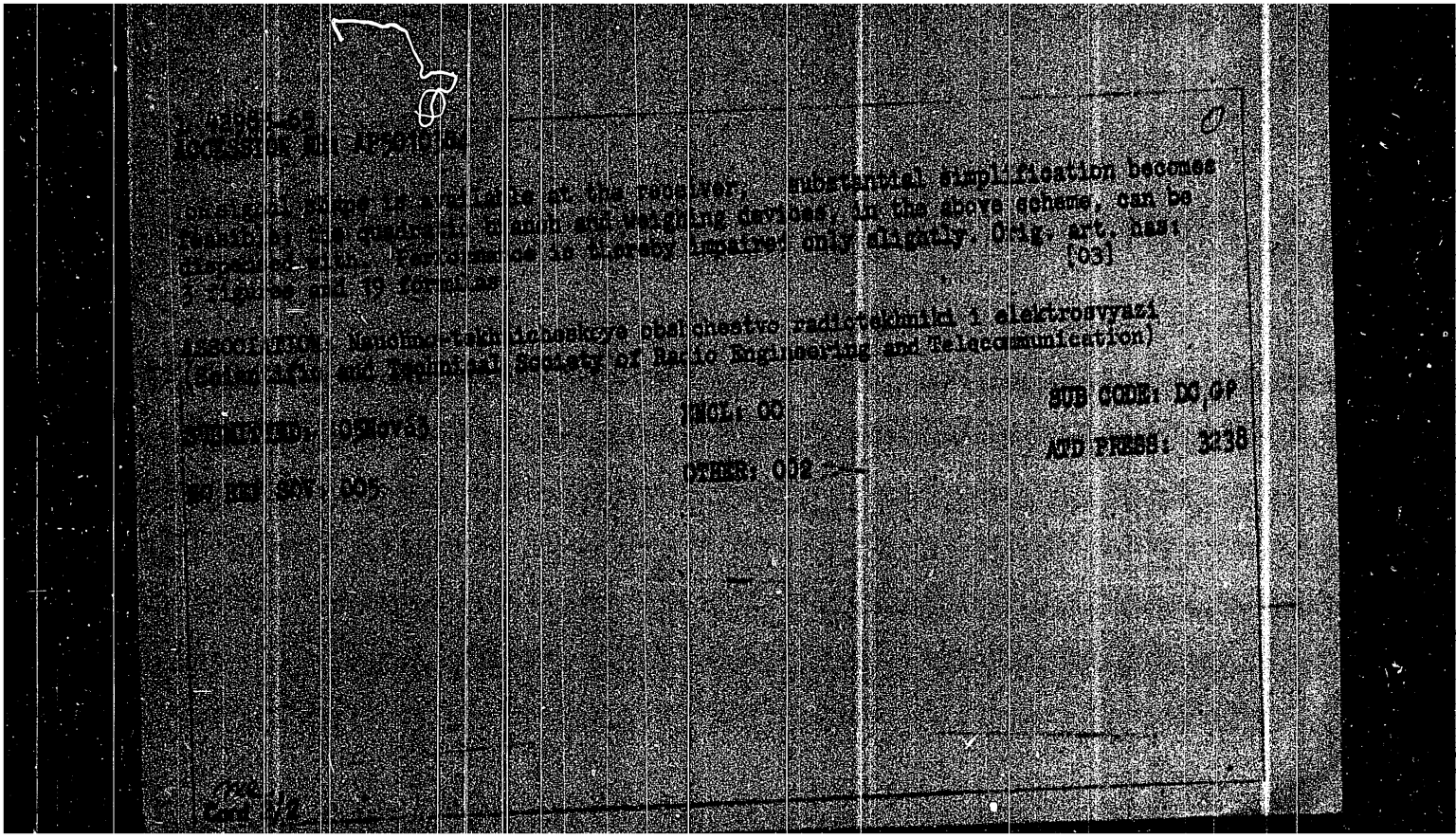
COMMON ELEMENTS

MATERIALS INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

USTINOV, A.N., inzh.; RAZUMOV, P.I., inzh.; ZAYTSEV, D.P., inzh.

Attachment for the use of the UPOL-6 device in determining the wear of crankshaft journals and bearings. Vest.mashinostr. 43 no.2:77-78 F '63. (MIRA 16:3)
(Mechanical wear--Measurement)

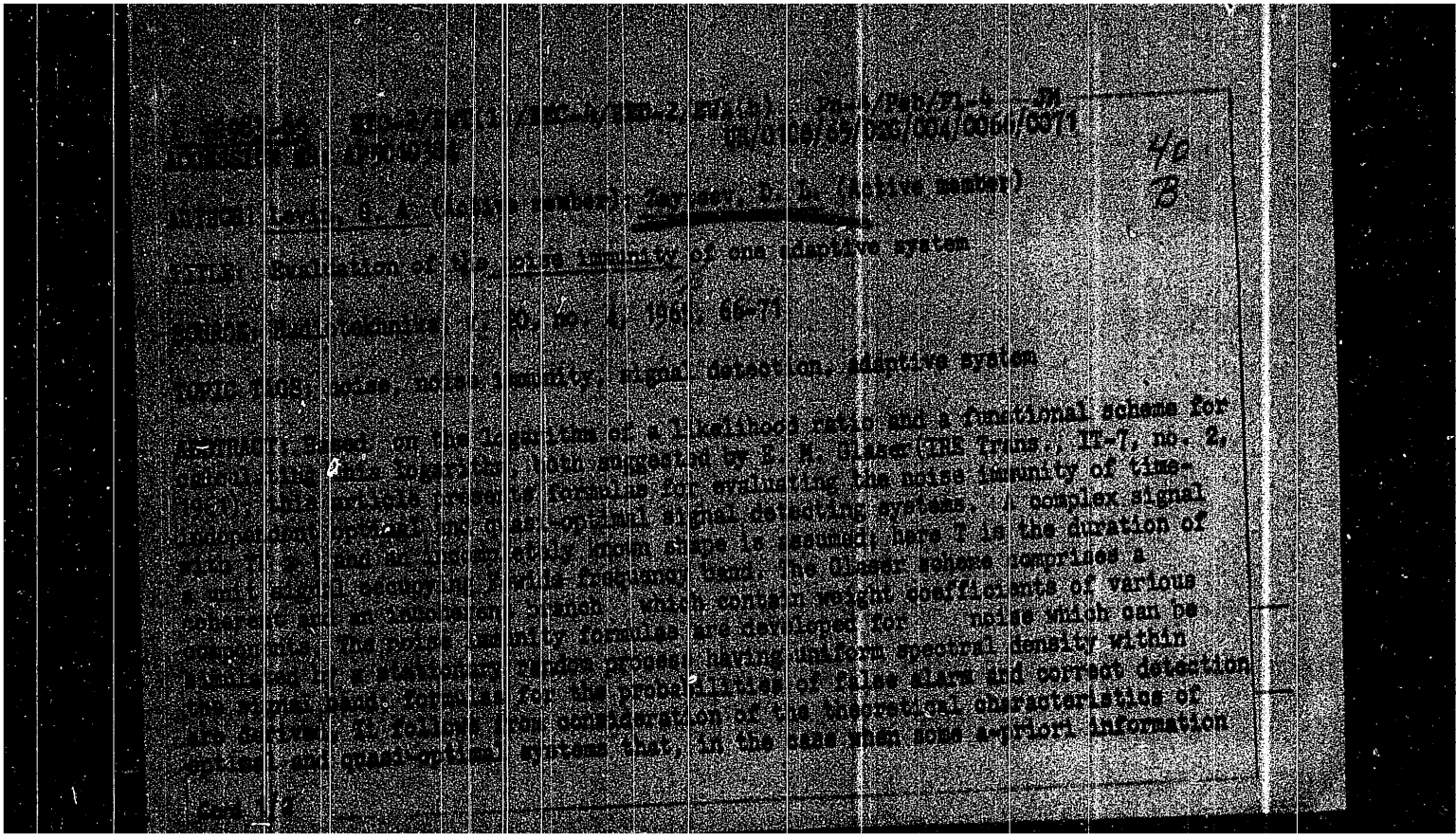


substantial simplification becomes
, in the above scheme, can be
only slightly. Orig. art. has:
[03]

radiotekhnika i elektronyka
and Telecommunication)

SUB CODE: EC,GP

AMD PRESS: 3238



ZAYTSEV, D.I.

Groups with minimum commutator conditions. Sib. mat. zhur. 6 no.5:
1014-1020 S-O '65. (MIRA 18:10)

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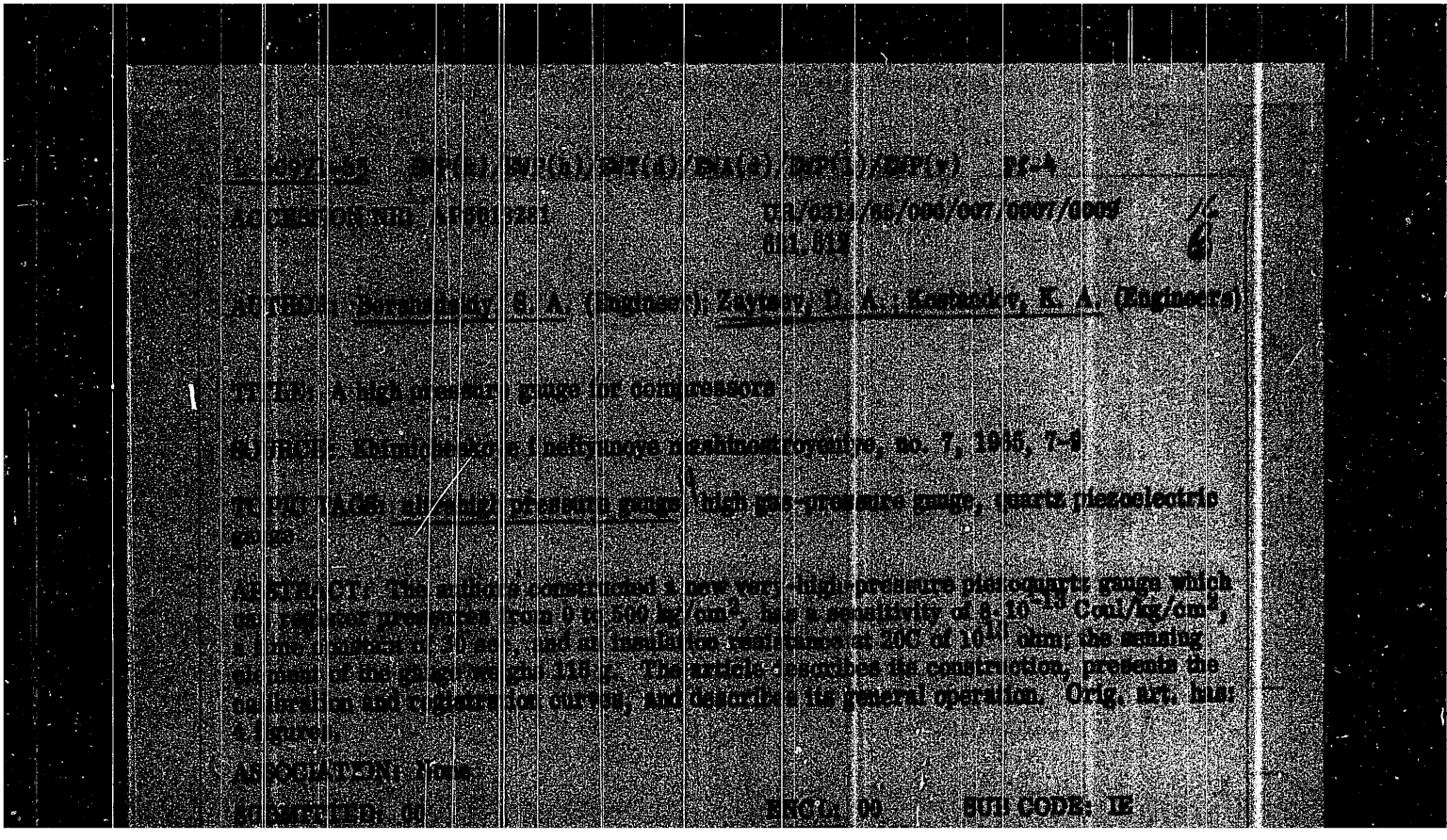

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